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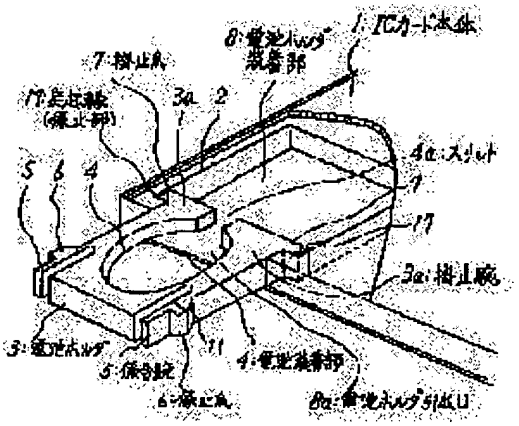
## (54) IC CARD

(57)Abstract:
PURPOSE: To mount a battery in an IC card without making a mistake in its polarities.
CONSTITUTION: When a battery holder 3 is drawn from an IC card body 1, an engaging pawl 7 of the holder 3 is engaged with a locking part 17 of the body 1 and held while the holder 3 remains mounted at the body 1. A battery is correctly seated at a battery mount 4 of the holder 3, the holder 3 is retracted in the body 1, and the battery is mounted in an IC card. If the holder 3 cannot be retracted in the body 1, the battery is erroneously placed in the holder 3, and hence an accident in which polarities of the battery are reversely set to be mounted in the card can be avoided.



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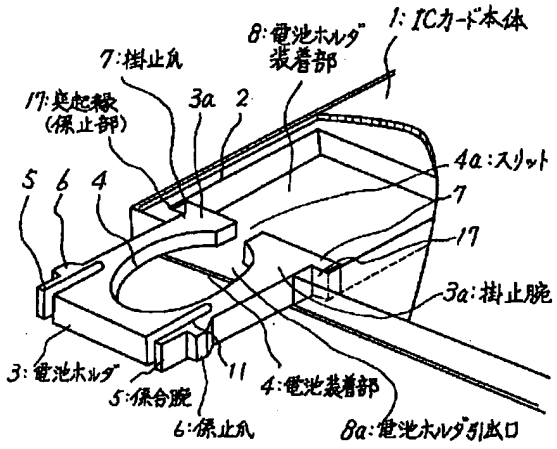
(54)【発明の名称】　ＩＣカード

(57)【要約】

【目的】　ＩＣカードに電池を、極性を違えることなく実装させる。

【構成】　電池ホルダ３をＩＣカード本体１から引き出す際に、電池ホルダ３の掛止爪７をＩＣカード本体１の係止部１７に引掛けて、電池ホルダ３をＩＣカード本体１に取付けたままに保持する。電池ホルダ３の電池装着部４に電池を正しく着座させ、電池ホルダ３をＩＣカード本体１内に引込めて電池９をＩＣカードに実装する。電池ホルダ３をＩＣカード本体１内に引込めることができない場合は、電池が電池ホルダ３に誤って載せてあることから、電池の極性を逆にしてＩＣカードに実装する事故を回避できる。



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【特許請求の範囲】
【請求項1】　電池ホルダをＩＣカード本体に有するＩＣカードであって、
ＩＣカード本体は、平板状をなし、電池ホルダ装着部と係止部とを有し、
電池ホルダ装着部は、電池ホルダの収納空間であり、ＩＣカード本体内に形成され、電池ホルダの引出口を有し、
電池ホルダの引出口は、ＩＣカード本体の一側面に開口され、電池ホルダ装着部内に電池ホルダを出入れする開口であり、
係止部は、電池ホルダ引出口の対向面に向き合わせて迫り出した突起縁からなるものであり、
電池ホルダは、電池装着部と、係合腕と、係止爪と、掛止部とを有し、平板状をなし、電池を収容してＩＣカード本体の電池ホルダ引出口を通して電池ホルダ装着部内に出入可能に挿着するものであり、
電池装着部は、電池ホルダの板面に電池の外形形状に倣って開口され、開口内に受入れた電池を実装姿勢に保持する溝であり、
係合腕は、電池ホルダの前縁両側の弾性を付与した部分であり、
係止爪は、各係合腕の外面に迫り出して設けられ、係合腕の弾性によりＩＣカード本体の係止部に係合させるものであり、
掛止部は、ＩＣカード本体の係止部に電池ホルダ装着部内で掛止させて電池ホルダの脱落を防止するものであり、掛止腕と掛止爪とを有し、
掛止腕は、電池ホルダの後縁両側の弾性を付与した部分であり、
掛止爪は、各掛止腕の外面に迫り出して設けられ、掛止腕の弾性によりＩＣカード本体の係止部に掛止されるものであることを特徴とするＩＣカード。
【請求項2】　電池ホルダをＩＣカード本体に有するＩＣカードであって、
ＩＣカード本体は、平板状をなし、電池ホルダ装着部と係止部と掛止溝とを有し、
電池ホルダ装着部は、電池ホルダの収納空間であり、ＩＣカード本体内に形成され、電池ホルダの引出口を有し、
電池ホルダの引出口は、ＩＣカード本体の一側面に開口され、電池ホルダ装着部内に電池ホルダを出入れする開口であり、
係止部は、電池ホルダ引出口の近傍に設けられた凹部であり、
掛止溝は、電池ホルダ装着部の内壁面に、電池ホルダのスライド方向に沿って設けられたものであり、
電池ホルダは、電池装着部と、係合腕と、係止爪と、掛止爪とを有し、平板状をなし、電池を収容してＩＣカード本体の電池ホルダ引出口を通して電池ホルダ装着部内に出入可能に挿着するものであり、
電池装着部は、電池ホルダの板面に電池の外形形状に倣って開口され、開口内に受入れた電池を実装姿勢に保持する溝であり、
係合腕は、電池ホルダの前縁両側の弾性を付与した部分であり、
係止爪は、各係合腕の外面に迫り出して設けられ、係合腕の弾性によりＩＣカードの係止部に嵌合させるものであり、
掛止爪は、掛止溝に摺動可能に嵌合され、電池ホルダ装着部内で掛止させて電池ホルダの脱落を防止するものであることを特徴とするＩＣカード。
【発明の詳細な説明】
【０００１】
【産業上の利用分野】本発明は、ＩＣカードに関し、特にボタン型電池を電源として内蔵するＩＣカードに関する。
【０００２】
【従来の技術】従来、この種のＩＣカードは図４に示されるように、ＩＣカード１と電池ホルダ３との組合せからなるものであって、ＩＣカードのフレーム２には、電池ホルダ３を脱着可能に収容する中空の電池ホルダ装着部８が設けられ、電池ホルダ装着部８は、ＩＣカード１の一側に開口されている。電池ホルダ３には、中央部に電池９を受け入れる中空の電池装着部４が設けられ、電池装着部４の両側には、すぐり１１が切り刻まれて弾性力を備えた弾性係合腕５が形成され、弾性係合腕５の先端には係合爪１０が設けられている。一方、フレーム２には、電池ホルダ装着部８の対向側壁に、係合爪１０と係合する係合凹部１２が設けられている。電池ホルダ３は、対をなす弾性係合腕５を内側に撓めてフレーム２の電池ホルダ装着部８内に差込まれ、完全に差込まれた状態で係合孔１０がフレーム２の係合凹部１２内に係合することにより、フレーム２に装着されていた。また電池ホルダ３の蓋部３ａはフレームの一部に係止され、電池ホルダ装着部８の開口を閉塞していた。
【０００３】また図５に示すように、電池９の極性を違えてＩＣカードに実装されるのを防止した構造のものがある。このものは、電池ホルダ３の一側の角部を切り落して逃げ部１４ａを設けて左右対称の形状とし、一方収納部２ａの一側に突起部１４ｂを設けて左右非対称の形状とし、電池ホルダ３の逃げ部１４ａに収納部２ａの突起部１４ｂが位置合わせされたときにのみ、係合腕５の係止爪６が係止凹部１３に係合するようになっていた。
【０００４】この構造のものでは、電池ホルダ３を表裏逆にしてフレーム２に差込んだときに、電池ホルダ３が突起部１４ｂに当接してフレーム１に完全に差込まれず、したがって、ＩＣカードへの電池の誤実装が防止されることとなる（例えば、特開平３－２７９８４号，実開昭６３－６０２７０号，実開平２－５０７７７号参

照）。

【０００５】

【発明が解決しようとする課題】ＩＣカードは、一般に厚味が極めて薄く、電池をＩＣカードに実装するための電池ホルダも、極めて小さな部品として構成せざるを得ないものである。従来の図３に示すＩＣカードでは、電池ホルダがＩＣカード本体から取り外せるため、電池交換時等、電池ホルダの取り扱いに細心の注意を払う必要があり、ＩＣから取り外した電池ホルダをユーザが誤って紛失してしまう可能性がある。そのため、カードベンダーは、電池ホルダを保守部品として用意しておかなければならないという問題があった。

【０００６】また、図５に示す従来のＩＣカードでは、電池の極性を正して誤電池をＩＣカードに実装するために、電池ホルダの形状は左右非対称であるから、左側と右側の形状を別々に加工する必要があり、加工性が悪かった。また、電池極性の正誤は、電池ホルダをＩＣカード内に一旦差し込んでみなければ、判別することができず、電池の装着作業が厄介であった。

【０００７】本発明の目的は、極めて小さな部品である電池ホルダの紛失防止を図り、また電池極性の正誤が電池を電池ホルダに装填した時点で判別可能としたＩＣカードを提供することにある。

【０００８】

【課題を解決するための手段】前記目的を達成するため、本発明に係るＩＣカードは、電池ホルダをＩＣカード本体に有するＩＣカードであって、ＩＣカード本体は、平板状をなし、電池ホルダ装着部と係止部とを有し、電池ホルダ装着部は、電池ホルダの収納空間であり、ＩＣカード本体内に形成され、電池ホルダの引出口を有し、電池ホルダの引出口は、ＩＣカード本体の一側面に開口され、電池ホルダ装着部内に電池ホルダを出入れする開口であり、係止部は、電池ホルダ引出口の対向面に向き合わせて迫り出した突起縁からなるものであり、電池ホルダは、電池装着部と、係合腕と、係止爪と、掛止部とを有し、平板状をなし、電池を収容してＩＣカード本体の電池ホルダ引出口を通して電池ホルダ装着部内に出入可能に挿着するものであり、電池装着部は、電池ホルダの板面に電池の外形形状に倣って開口され、開口内に受入れた電池を実装姿勢に保持する溝であり、係合腕は、電池ホルダの前縁両側の弾性を付与した部分であり、係止爪は、各係合腕の外面に迫り出して設けられ、係合腕の弾性によりＩＣカード本体の係止部に係合させるものであり、掛止部は、ＩＣカード本体の係止部に電池ホルダ装着部内で掛止させて電池ホルダの脱落を防止するものであり、掛止腕と掛止爪とを有し、掛止腕は、電池ホルダの後縁両側の弾性を付与した部分であり、掛止爪は、各掛止腕の外面に迫り出して設けられ、掛止腕の弾性によりＩＣカード本体の係止部に掛止されるものである。



【０００９】また、電池ホルダをＩＣカード本体に有するＩＣカードであって、ＩＣカード本体は、平板状をなし、電池ホルダ装着部と係止部と掛止溝とを有し、電池ホルダ装着部は、電池ホルダの収納空間であり、ＩＣカード本体内に形成され、電池ホルダの引出口を有し、電池ホルダの引出口は、ＩＣカード本体の一側面に開口され、電池ホルダ装着部内に電池ホルダを出入れする開口であり、係止部は、電池ホルダ引出口の近傍に設けられた凹部であり、掛止溝は、電池ホルダ装着部の内壁面に、電池ホルダのスライド方向に沿って設けられたものであり、電池ホルダは、電池装着部と、係合腕と、係止爪と、掛止爪とを有し、平板状をなし、電池を収容してＩＣカード本体の電池ホルダ引出口を通して電池ホルダ装着部内に出入可能に挿着するものであり、電池装着部は、電池ホルダの板面に電池の外形形状に倣って開口され、開口内に受入れた電池を実装姿勢に保持する溝であり、係合腕は、電池ホルダの前縁両側の弾性を付与した部分であり、係止爪は、各係合腕の外面に迫り出して設けられ、係合腕の弾性によりＩＣカードの係止部に嵌合させるものであり、掛止爪は、掛止溝に摺動可能に嵌合され、電池ホルダ装着部内で掛止させて電池ホルダの脱落を防止するものである。

【００１０】

【作用】電池ホルダをＩＣカード本体から引き出した際に、電池ホルダの掛止部がＩＣカード本体の係止部に引掛り、電池ホルダがＩＣカード本体から抜け出ることはなく、したがって、電池ホルダをＩＣカード本体から取り外して紛失してしまうという事故を回避することができる。

【００１１】さらに、電池ホルダは、ＩＣカード本体に引出可能に組み込まれ、ＩＣカード本体から取外すことは不可能な構造となっており、しかもこの電池装着部が電池の外形形状に倣った溝形状であるため、ＩＣカード本体より引出した電池ホルダの電池装着部に電池を着座させた場合に、正座したときには電池極性が正しく実装されることとなる。したがって、電池極性の正誤が電池ホルダへの装填時点で判別可能となる。

【００１２】

【実施例】以下、本発明の実施例を図により説明する。

【００１３】（実施例１）図１は、本発明の実施例１を示す斜視図、図２は電池ホルダを示す断面図である。

【００１４】図において、本発明に係るＩＣカードは、電池ホルダ３をＩＣカード本体１に引出可能に設け、電池ホルダ３に電池９を支持してＩＣカード本体１に交換可能に実装するようにしたものである。

【００１５】ＩＣカード本体１は、平板状をなし、フレーム２に電池ホルダ装着部８と係止部とを有している。電池ホルダ装着部８は、電池９を支持した電池ホルダ３を収納する中空の空間であり、ＩＣカード本体１のフレーム２に形成され、電池ホルダ引出口８ａを有してい

る。電池ホルダ引出口８ａは、ＩＣカード本体１の一側面に開口され、電池ホルダ装着部８内に電池ホルダ３を出入れする開口からなっている。係止部は、電池ホルダ引出口８ａの対向面に向き合わせて迫り出した突起縁１７からなっている。

【００１６】電池ホルダ３は、平板状をなし、電池装着部４と、係合腕５と、係止爪６と、掛止部とを有している。電池装着部４は、電池ホルダ３の板面に電池９の外形形状に倣って開口され、開口内に受入れた電池９を実装姿勢に保持するようになっている。また、電池ホルダ３は、溝形状の電池装着部４の一部にスリット４ａを切り込んで、その後端側に弾性を有する掛止腕３ａ，３ａが設けられている。係合腕５，５は、電池ホルダ３の前縁両側にスリット１１を切り込んで弾性を付与した部分からなっている。係止爪６は、各係合腕５，５の外面に迫り出して設けられ、係合腕５の弾性によりＩＣカード本体１の突起縁１７に掛止する。掛止部は、掛止腕３ａと掛止爪７とからなり、掛止爪７は、各掛止腕３ａの外面に迫り出して設けられ、掛止腕３ａの弾性によりＩＣカード本体１の突起縁１７に掛止されるようになっている。

【００１７】実施例において、電池の交換を行なう場合には、係合腕をそれぞれ内方に撓めて、係止爪６と突起縁１７との係合状態を解き、係止爪６を電池ホルダ引出口８ａに通過させて電池ホルダ３をＩＣカード外に引出す。電池ホルダ３を引出して、その電池装着部４が外部に現われたときに、電池ホルダ３の掛止爪７がＩＣカード本体１の突起縁１７に電池ホルダ装着部８内で掛止し、これにより、ＩＣカード本体１からの電池ホルダ３の脱落が防止される。

【００１８】この状態で、電池ホルダ３の電池装着部４から使用済の電池を取外し、これに代えて新品の電池を装填する。この場合、電池装着部４は図２に示すように、電池９の外形形状に倣った溝形状となっているため、電池９が正しく電池装着部４に装填されないかぎり、電池ホルダ３をＩＣカード本体１内に引き込めることができないため、電池極性の正誤を即座に判別することができる。すなわち電池９は、図２に示すように、陽極１５の形状が平坦であり、陰極１６の形状が陽極１５の形状とは相違しているため、電池ホルダ３の電池装着部４の溝形状は陰極１６の形状に倣った形状であるから、電池９の表裏を逆にして電池ホルダ３に着座させた場合には、電池９が電池装着部４にうまく適合せず、電池９の着座姿勢から極性の正誤を判別できる。

【００１９】係合腕５を内方に撓ませて係合爪６を電池ホルダ引出口８ａに通過させて電池ホルダ３をＩＣカード本体１内に引込めて、電池ホルダ３を電池ホルダ装着部８内に収納する。係合爪６が電池ホルダ引出口８ａを通過すると、係止爪６が係合腕５の弾性により突起縁１７に係合し、電池ホルダ３は電池ホルダ装着部８内に保持される。



【００２０】また、電池ホルダ３をＩＣカード本体１から抜き取る場合には、電池ホルダ３をＩＣカード本体１から引き出し、掛止腕３ａを内方に撓めると、掛止爪７は、ＩＣカード本体１の突起縁１７との掛止が解かれ、電池ホルダ引出口８ａを通過する。これにより電池ホルダ３はＩＣカード本体１から抜き取れる。本実施例では、電池ホルダ３をＩＣカード本体１から引出した後に、掛止腕３ａを撓めなければならないため、電池ホルダ３が紛失されにくくなっている。

【００２１】この種のＩＣカードは、厚さが通常３．４ｍｍ以下であるため、電池ホルダ３は、それ以下の厚さとなり、電池ホルダ３の構成素材がＰＢＴ（ポリカーボネート）等の材質であれば、電池ホルダ３にスリット４ａを設けて掛止腕３ａを左右に分離しておくことにより、掛止腕３ａを容易に撓められる。従ってＩＣカードベンダーは、ＩＣカード組立時に苦労することなく、電池ホルダ３を金型で整形した後に電池ホルダ３の掛止腕３ａを撓めてＩＣカード本体１の電池ホルダ装着部８に電池ホルダ引出口８ａより差し込めばよい。

【００２２】（実施例２）図３は、本発明の実施例２を示す斜視図である。

【００２３】本実施例では、ＩＣカード本体１の係止部は、電池ホルダ引出口８ａの近傍に設けられた凹部１３であり、係合凹部１３には、電池ホルダ３の係止爪６が嵌合するようになっている。

【００２４】掛止溝１８ｂは、電池ホルダ装着部８の上下の一方又は双方の内壁面に、電池ホルダ３のスライド方向に沿って設けられている。電池ホルダ３の掛止爪１８ａは電池ホルダ３の後端側の上下の一方又は双方の板面にくさび形で先端ほど細くなって設けられており、掛止爪１８ａは掛止溝１８ｂ内に摺動可能に嵌合されている。組をなす掛止爪１８ａと掛止溝１８ｂは、掛止爪１８ａが掛止溝１８ｂの終端立上り壁１８ｃに当接したときに、電池ホルダ３がＩＣカード本体１から脱落するのを防止するようになっている。その他の構造及び動作は第１の実施例と同じである。実施例２では電池ホルダ３を前方に大きくしないで済むため、ＩＣカード全体における電池の占める面積の割合いが小さく、その他の部品の実装面積を大きくとれるという利点を有する。

【００２５】

【発明の効果】以上説明したように本発明は、電池ホルダをＩＣカード本体に取付けたままで電池の交換を可能としたため、ＩＣカード本体から電池ホルダを不用意に取外して紛失するという事故を回避することができる。また、電池ホルダへの電池の装着は、向きが自動的にガイドされ、電池ホルダは初めからカード本体から外れないようになっているので、ユーザが電池の極性を逆にしてＩＣカードに実装してしまうことを防止できる。また、製造面から見ても、電池ホルダやフレームの形状が

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単純化されているため、容易に製造することができる。

【図面の簡単な説明】

【図１】本発明の実施例１を示す斜視図である。

【図２】本発明の実施例に用いた電池ホルダを示す断面図である。

【図３】本発明の実施例２を示す斜視図である。

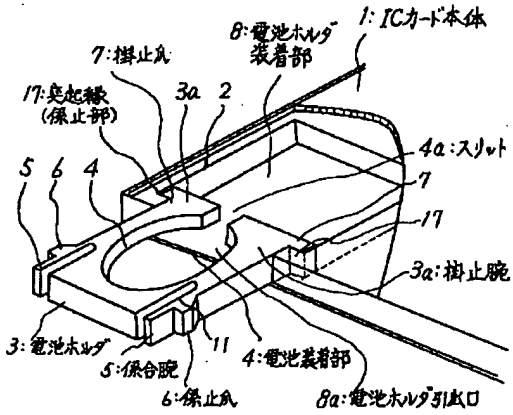
【図４】従来例を示す斜視図である。

【図５】従来例を示す斜視図である。

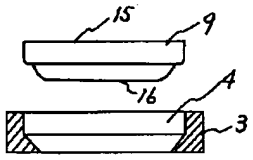
【符号の説明】

１　ＩＣカード本体
２　フレーム
３　電池ホルダ
３ａ　掛止腕
４　電池装着部
４ａ　スリット
５　係合腕
６　係止爪
７　掛止爪
８　電池ホルダ装着部
８ａ　電池ホルダ引出口
９　電池
１０　係合爪
１１　スリット
１２　係合凹部
１３　係合凹部
１５　電池陽極
１６　電池陰極
１７　突起縁
１８ａ　掛止爪
１８ｂ　掛止溝
１８ｃ　掛止溝の終端立上り壁

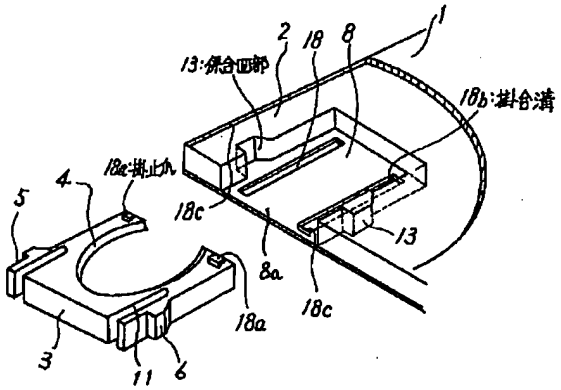
【図１】



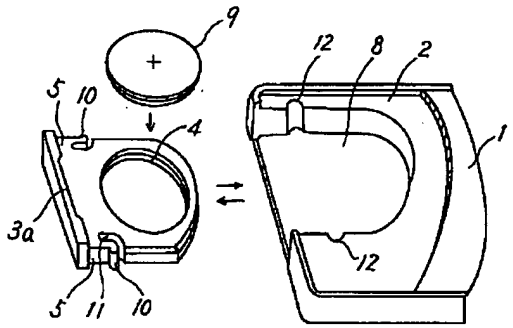

【図２】



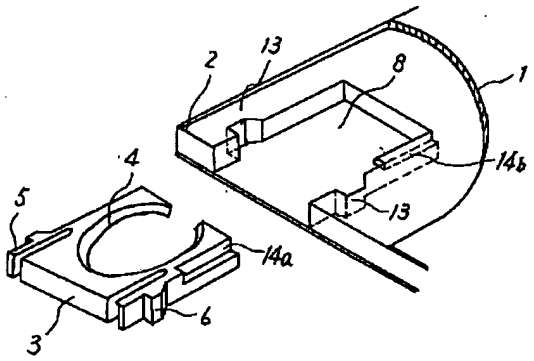

【図３】




【図４】



【図5】

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フロントページの続き

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| Ｈ０１Ｍ　2/10 | | Ｐ　9444－4Ｋ | | |

* NOTICES *



1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

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CLAIMS

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[Claim(s)]
[Claim 1] It is what is equipped with the following, holds nothing and a cell and inserts plate-like possible [ in-and-out ] in a cell electrode-holder applied part through the cell electrode-holder drawer mouth of an IC card main part. a cell applied part It is the slot which holds the cell which the appearance configuration of a cell was imitated, and opening was carried out to the plate surface of a cell electrode holder, and was received in opening into a mounting posture. an engagement arm It is the portion which gave the elasticity of the first transition both sides of a cell electrode holder. a stop presser foot stitch tongue It is the thing which is pushed out and prepared in the superficies of each engagement arm, and is made to engage with the stop section of an IC card main part with the elasticity of an engagement arm. the hanging section It is made to hang on the stop section of an IC card main part within a cell electrode-holder applied part, defluxion of a cell electrode holder is prevented, and it has a hanging arm and a hanging presser foot stitch tongue. a hanging arm It is the IC card which is the portion which gave the elasticity of the trailing-edge both sides of a cell electrode holder, pushes out on the superficies of each hanging arm as for a hanging presser foot stitch tongue, is prepared, and is characterized by being what is hung on the stop section of an IC card main part by the elasticity of a hanging arm. It is the IC card which has a cell electrode holder on an IC card main part. an IC card main part It has nothing, a cell electrode-holder applied part, and the stop section for plate-like. a cell electrode-holder applied part It is the receipt space of a cell electrode holder, is formed in an IC card main part, and has the drawer mouth of a cell electrode holder. the drawer mouth of a cell electrode holder Opening is carried out to the unilateral side of an IC card main part, it is opening which takes a cell electrode holder in a cell electrode-holder applied part, the stop section consists of a salient edge which was opposed to the opposed face of a cell electrode-holder drawer mouth, and pushed out, and a cell electrode holder is a cell applied part. Engagement arm Stop presser foot stitch tongue Hanging section
[Claim 2] It is what is equipped with the following, holds nothing and a cell and inserts plate-like possible [ in-and-out ] in a cell electrode-holder applied part through the cell electrode-holder drawer mouth of an IC card main part. a cell applied part It is the slot which holds the cell which the appearance configuration of a cell was imitated, and opening was carried out to the plate surface of a cell electrode holder, and was received in opening into a mounting posture. an engagement arm It is the portion which gave the elasticity of the first transition both sides of a cell electrode holder. a stop presser foot stitch tongue It is the IC card which is pushed out and prepared in the superficies of each engagement arm, is made to fit into the stop section of an IC card with the elasticity of an engagement arm, and is characterized by a hanging presser foot stitch tongue being what fits into a hanging slot possible [ sliding ], is made to hang within a cell electrode-holder applied part, and prevents defluxion of a cell electrode holder. It is the IC card which has a cell electrode holder on an IC card main part. an IC card main part It has nothing, a cell electrode-holder applied part, the stop section, and a hanging slot for plate-like. a cell electrode-holder applied part It is the receipt space of a cell electrode holder, is formed in an IC card main part, and has the drawer mouth of a cell electrode holder. the drawer mouth of a cell electrode holder It is opening which opening is carried out to the unilateral side of an IC card main part, and takes a cell electrode holder in a cell electrode-holder applied part. the stop section It is the crevice prepared near the cell electrode-holder drawer mouth, a hanging slot is established in the internal surface of a cell electrode-holder applied part along the slide direction of a cell electrode holder, and a cell electrode holder is a cell applied part. Engagement arm Stop presser foot stitch tongue Hanging presser foot stitch tongue

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[Translation done.]

## DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] Especially this invention relates to the IC card which builds in a button type cell as a power supply about an IC card.
[0002]
[Description of the Prior Art] Conventionally, as this kind of IC card is shown in drawing 4 , it consists of combination of IC card 1 and the cell electrode holder 3, the cell electrode-holder applied part 8 of the hollow which holds the cell electrode holder 3 possible [ desorption ] is formed in the frame 2 of an IC card, and opening of the cell electrode-holder applied part 8 is carried out to the unilateral of IC card 1. The elastic engagement arm 5 which the cell applied part 4 of the hollow which receives a cell 9 in a center section was formed, and the gooseberry 11 was chopped up by the both sides of the cell applied part 4, and equipped the cell electrode holder 3 with the elastic force is formed, and the engagement presser foot stitch tongue 10 is formed at the nose of cam of the elastic engagement arm 5. On the other hand, the engagement crevice 12 which engages with the engagement presser foot stitch tongue 10 is established in the opposite side attachment wall of the cell electrode-holder applied part 8 at the frame 2. the state where the cell electrode holder 3 stir-fried the elastic engagement arm 5 which makes a pair inside, and was inserted in the cell electrode-holder applied part 8 of a frame 2, and it was inserted completely -- engagement -- the frame 2 was equipped when a hole 10 was engaged in the engagement crevice 12 of a frame 2 Moreover, covering device 3a of the cell electrode holder 3 was stopped by a part of frame, and blockaded opening of the cell electrode-holder applied part 8.
[0003] Moreover, as shown in drawing 5 , there is a thing of structure which prevented changing the polarity of a cell 9 and being mounted in an IC card. Only when this thing cut off the corner of the unilateral of the cell electrode holder 3, prepared roll-off 14a, make it into the configuration of a bilateral symmetry, it prepares height 14b in the unilateral of stowage 2a on the other hand, and considers as the configuration of right-and-left asymmetry and alignment of the height 14b of stowage 2a is carried out to roll-off 14a of the cell electrode holder 3, the stop presser foot stitch tongue 6 of the engagement arm 5 engages with the stop crevice 13.
[0004] In the thing of this structure, when the cell electrode holder 3 is made into table back reverse and it inserts in a frame 2, the cell electrode holder 3 will not be completely inserted in a frame 1 in contact with height 14b, therefore incorrect mounting of the cell to an IC card will be prevented (for example, refer to JP,3-27984,A, JP,63-60270,U, and JP,2-50777,U).
[0005]
[Problem(s) to be Solved by the Invention] Generally, the thick taste of an IC card is very thin, and it also cannot but constitute the cell electrode holder for mounting a cell in an IC card as very small parts. In the IC card shown in conventional drawing 3 , since a cell electrode holder can remove from an IC card main part, a user may lose accidentally the cell electrode holder which needed to pay attention careful to the handling of cell electrode holders, such as the time of a changing battery, and removed it from IC. Therefore, the card vender had the problem that a cell electrode holder had to be prepared as maintenance parts.
[0006] Moreover, in the conventional IC card shown in drawing 5 , since the polarity of a cell was corrected and an incorrect cell was mounted in an IC card, since the configuration of a cell electrode holder was right-and-left asymmetry, it needed to process separately the configuration of left-hand side and right-hand side, and processability was bad [ the configuration ]. Moreover, if the correction of cell polarity did not once insert a cell electrode holder in the IC card, it could not be distinguished but its wearing of a cell was troublesome.
[0007] The purpose of this invention is to offer the IC card whose distinction was enabled, when loss prevention of the cell electrode holder which are very small parts is aimed at and the correction of cell polarity loads a cell electrode holder with a cell.
[0008]
[Means for Solving the Problem] In order to attain the aforementioned purpose, the IC card concerning this invention It is the IC card which has a cell electrode holder on an IC card main part. an IC card main part It has nothing, a cell electrode-holder applied part, and the stop section for plate-like. a cell electrode-holder applied part It is the receipt space of a cell electrode holder, is formed in an IC card main part, and has the drawer mouth of a cell electrode holder. the drawer mouth of a cell electrode holder It is opening which opening is carried out to the unilateral side of an IC card main part, and takes a cell electrode holder in a cell electrode-holder applied part. the stop section It is what consists of a salient edge which was

opposed to the opposed face of a cell electrode-holder drawer mouth, and pushed out. a cell electrode holder It has a cell applied part, an engagement arm, a stop presser foot stitch tongue, and the hanging section. plate-like Nothing, It is what holds a cell and is inserted possible [ in-and-out ] in a cell electrode-holder applied part through the cell electrode-holder drawer mouth of an IC card main part. a cell applied part It is the slot which holds the cell which the appearance configuration of a cell was imitated, and opening was carried out to the plate surface of a cell electrode holder, and was received in opening into a mounting posture. an engagement arm It is the portion which gave the elasticity of the first transition both sides of a cell electrode holder. a stop presser foot stitch tongue It is the thing which is pushed out and prepared in the superficies of each engagement arm, and is made to engage with the stop section of an IC card main part with the elasticity of an engagement arm. the hanging section It is made to hang on the stop section of an IC card main part within a cell electrode-holder applied part, defluxion of a cell electrode holder is prevented, and it has a hanging arm and a hanging presser foot stitch tongue. a hanging arm It is the portion which gave the elasticity of the trailing-edge both sides of a cell electrode holder, and a hanging presser foot stitch tongue is pushed out and formed in the superficies of each hanging arm, and is hung on the stop section of an IC card main part by the elasticity of a hanging arm.

[0009] It is the IC card which has a cell electrode holder on an IC card main part. moreover, an IC card main part It has nothing, a cell electrode-holder applied part, the stop section, and a hanging slot for plate-like. a cell electrode-holder applied part It is the receipt space of a cell electrode holder, is formed in an IC card main part, and has the drawer mouth of a cell electrode holder. the drawer mouth of a cell electrode holder It is opening which opening is carried out to the unilateral side of an IC card main part, and takes a cell electrode holder in a cell electrode-holder applied part. the stop section It is the crevice prepared near the cell electrode-holder drawer mouth. a hanging slot It is prepared in the internal surface of a cell electrode-holder applied part along the slide direction of a cell electrode holder. a cell electrode holder It has a cell applied part, an engagement arm, a stop presser foot stitch tongue, and a hanging presser foot stitch tongue. plate-like Nothing, It is what holds a cell and is inserted possible [ in-and-out ] in a cell electrode-holder applied part through the cell electrode-holder drawer mouth of an IC card main part. a cell applied part It is the slot which holds the cell which the appearance configuration of a cell was imitated, and opening was carried out to the plate surface of a cell electrode holder, and was received in opening into a mounting posture. an engagement arm It is the portion which gave the elasticity of the first transition both sides of a cell electrode holder. a stop presser foot stitch tongue It is pushed out and prepared in the superficies of each engagement arm, and is made to fit into the stop section of an IC card with the elasticity of an engagement arm, and a hanging presser foot stitch tongue fits into a hanging slot possible [ sliding ], is made to hang within a cell electrode-holder applied part, and prevents defluxion of a cell electrode holder.

[0010]

[Function] When a cell electrode holder is pulled out from an IC card main part, the hanging section of a cell electrode holder is caught in the stop section of an IC card main part, a cell electrode holder can escape from it, and cannot come out of an IC card main part, therefore the accident in which will remove a cell electrode holder from an IC card main part, and it will lose can be avoided.

[0011] Furthermore, a cell electrode holder is built into an IC card main part possible [ a drawer ], demounting from an IC card main part has impossible structure, and when sitting a cell to the cell applied part of the cell electrode holder pulled out from the IC card main part, and it sits straight, cell polarity will be mounted [ since it has the shape of a quirk to which this cell applied part moreover imitated the appearance configuration of a cell, ] surely. Therefore, it is the correction of cell polarity at the charge time to a cell electrode holder, and distinction of it is attained.

[0012]

[Example] Hereafter, drawing explains the example of this invention.

[0013] (Example 1) The perspective diagram in which drawing 1 shows the example 1 of this invention, and drawing 2 are the cross sections showing a cell electrode holder.

[0014] In drawing, the IC card concerning this invention forms the cell electrode holder 3 in the IC card main part 1 possible a drawer ], and is made to mount it in the cell electrode holder 3 possible [ exchange with the IC card main part 1 ] in support of a cell 9.

[0015] The IC card main part 1 has the cell electrode-holder applied part 8 and the stop section for plate-like on nothing and the frame 2. The cell electrode-holder applied part 8 is the space of the hollow which contains the cell electrode holder 3 which supported the cell 9, is formed in the frame 2 of the IC card main part 1, and has cell electrode-holder drawer mouth 8a. Opening of the cell electrode-holder drawer mouth 8a is carried out to the unilateral side of the IC card main part 1, and it consists of opening which takes the cell electrode holder 3 in the cell electrode-holder applied part 8. The stop section consists of a salient edge 17 which was opposed to the opposed face of cell electrode-holder drawer mouth 8a, and pushed out.

[0016] The cell electrode holder 3 has nothing, the cell applied part 4, the engagement arm 5, the stop presser foot stitch tongue 6, and the hanging section for plate-like. The cell applied part 4 imitates the appearance configuration of a cell 9, and opening is carried out to the plate surface of the cell electrode holder 3, and it holds the cell 9 received in opening into a mounting posture. Moreover, the cell electrode holder 3 cuts slit 4a deeply to a part of quirk-like cell applied part 4, and the hanging arms 3a and 3a which have elasticity in the back end side are formed. The engagement arms 5 and 5 consist of a portion which cut the slit 11 on first transition both sides of the cell electrode holder 3 deeply, and gave elasticity to them. The stop presser foot stitch tongue 6 is pushed out and formed in the superficies of each engagement arms 5 and 5, and is hung on the salient edge 17 of the IC card main part 1 with the elasticity of the engagement arm 5. The hanging section

consists of hanging arm 3a and a hanging presser foot stitch tongue 7, and the hanging presser foot stitch tongue 7 is pushed out and formed in the superficies of each hanging arm 3a, and is hung on the salient edge 17 of the IC card main part 1 by the elasticity of hanging arm 3a.

[0017] In an example, in exchanging cells, stir-fry an engagement arm to the inner direction, respectively, dispel the engagement state of the stop presser foot stitch tongue 6 and the salient edge 17, cell electrode-holder drawer mouth 8a is made to pass the stop presser foot stitch tongue 6, and it pulls out the cell electrode holder 3 out of an IC card. When the cell electrode holder 3 is pulled out and the cell applied part 4 appears outside, the hanging presser foot stitch tongue 7 of the cell electrode holder 3 hangs on the salient edge 17 of the IC card main part 1 within the cell electrode-holder applied part 8, and, thereby, defluxion of the cell electrode holder 3 from the IC card main part 1 is prevented.

[0018] In this state, a used cell is demounted from the cell applied part 4 of the cell electrode holder 3, and it replaces with this, and loads with a new cell. In this case, since the cell applied part 4 cannot draw the cell electrode holder 3 in the IC card main part 1 unless the cell applied part 4 is correctly loaded with a cell 9, since it is the shape of a quirk which imitated the appearance configuration of a cell 9 as shown in drawing 2 , it can distinguish the correction of cell polarity immediately. Namely, since the configuration of an anode plate 15 is flat and the configuration of cathode 16 is different from the configuration of an anode plate 15, as a cell 9 is shown in drawing 2 , Since the shape of a quirk of the cell applied part 4 of the cell electrode holder 3 is a configuration where the configuration of cathode 16 was imitated, when making the front reverse side of a cell 9 reverse and sitting the cell electrode holder 3, a cell 9 does not suit the cell applied part 4 well, but it can distinguish polar correction from the taking-a-seat posture of a cell 9.

[0019] Sag the engagement arm 5 in the inner direction, cell electrode-holder drawer mouth 8a is made to pass the engagement presser foot stitch tongue 6, the cell electrode holder 3 is retracted in the IC card main part 1, and the cell electrode holder 3 is contained in the cell electrode-holder applied part 8. If the engagement presser foot stitch tongue 6 passes cell electrode-holder drawer mouth 8a, the stop presser foot stitch tongue 6 will engage with the salient edge 17 with the elasticity of the engagement arm 5, and the cell electrode holder 3 will be held in the cell electrode-holder applied part 8.

[0020] Moreover, if the cell electrode holder 3 is pulled out from the IC card main part 1 and it stir-fries hanging arm 3a to the inner direction in sampling the cell electrode holder 3 from the IC card main part 1, hanging with the salient edge 17 of the IC card main part 1 will be solved, and the hanging presser foot stitch tongue 7 will pass cell electrode-holder drawer mouth 8a. Thereby, the cell electrode holder 3 can be sampled from the IC card main part 1. After pulling out the cell electrode holder 3 from the IC card main part 1, in order to have to stir-fry hanging arm 3a in this example, the cell electrode holder 3 has become being hard to lose.

[0021] Since the thickness of this kind of IC card is usually 3.4mm or less, the cell electrode holder 3 serves as thickness not more than it, and if the constituent material of the cell electrode holder 3 is the quality of the materials, such as PBT (polycarbonate), hanging arm 3a will be easily stir-fried by preparing slit 4a in the cell electrode holder 3, and dividing hanging arm 3a into right and left. Therefore, after an IC card vender operates the cell electrode holder 3 orthopedically with metal mold, without suffering troubles at the time of IC card assembly, it stir-fries hanging arm 3a of the cell electrode holder 3, and should just insert it in the cell electrode-holder applied part 8 of the IC card main part 1 from cell electrode-holder drawer mouth 8a.

[0022] (Example 2) Drawing 3 is the perspective diagram showing the example 2 of this invention.

[0023] In this example, the stop section of the IC card main part 1 is the crevice 13 prepared near the cell electrode-holder drawer mouth 8a, and the stop presser foot stitch tongue 6 of the cell electrode holder 3 fits into the engagement crevice 13.

[0024] Hanging slot 18b is prepared in the internal surface of one side of the upper and lower sides of the cell electrode-holder wearing section 8, or both sides along the slide direction of the cell electrode holder 3. By the wedge shape, a nose of cam becomes thin, hanging presser-foot-stitch-tongue 18a of the cell electrode holder 3 is prepared in the plate surface of one side of the upper and lower sides by the side of the back end of the cell electrode holder 3, or both sides, and hanging presser-foot-stitch-tongue 18a has fitted in possible [ sliding ] in hanging slot 18b. Hanging presser-foot-stitch-tongue 18a and hanging slot 18b which make a group prevent that the cell electrode holder 3 drops out of the IC card main part 1, when hanging presser-foot-stitch-tongue 18a contacts termination standup wall 18c of hanging slot 18b. Other structures and operation are the same as the 1st example. In the example 2, since it is not necessary to make the cell electrode holder 3 ahead large, the rate of the area which the cell in the whole IC card occupies has the advantage that it is small and the large component-side product of other parts can be taken.

[0025]

[Effect of the Invention] As explained above, this invention can write exchange of a cell, attaching a cell electrode holder in an IC card main part as it is possible, and the accident in which demount a cell electrode holder from an IC card main part carelessly, and it loses can be avoided. Moreover, since, as for wearing of the cell to a cell electrode holder, the sense is guided automatically and a cell electrode holder separates from the start to the main part of a card, it can prevent that a user makes polarity of a cell reverse and mounts in an IC card. Moreover, since the configuration of a cell electrode holder or a frame is simplified even if it sees from a manufacture side, it can manufacture easily.

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[Translation done.]